

AMENDMENT AND RESPONSE

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Serial No.: 10/073,701

Filing Date: 2/11/2002

Attorney Docket No. 100.365US01

Title: ELECTRICAL CONNECTIONS WITHIN SUBSTRATES

REMARKS

Applicant has reviewed the Office Action mailed on October 31, 2005 as well as the art cited. Claims 23-25, and 37-42 are pending in this application.

Rejections Under 35 U.S.C. § 112

Claims 23-26 were rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention.

Claim 23 is directed to a method for transmitting high-frequency current through a substrate. The method comprises receiving the high-frequency current at a via passing through at least one conductive plane disposed within the substrate and coupled to the via with one or more tabs which span a gap between the at least one conductive plane and the via; and directing the high-frequency current along an uninterrupted path substantially on a surface of the via thereby bypassing the at least one conductive plane by conducting at least a portion of the high-frequency current between the one or more tabs.

Claim 23 has been amended to change "a substrate" on line 4 to "the substrate" in order to correct a typographical error. In addition, claim 23 has been amended for clarification in light of the Examiner's questions. In amending claim 23, no new limitations have been added. The limitation "bypassing the at least one conductive plane" is merely a rewording of limitations already in claim 23. Additionally, Applicant believes that the limitation "directing the current along an uninterrupted path" is clear when read in light of the specification. In particular, in one embodiment, the specification states "Gap 230 provides an uninterrupted path for a portion of a high-frequency current flowing substantially on surface 240 of via 110 to flow between each of tabs 220₁ to 220_m, through gap 230, and past conductive plane 122." ¶ 18. Therefore, the limitation "bypassing the at least one conductive plane" is a rewording of limitations previously expressed by "separating the via" and "spanning the gap," and clarifies to one of skill in the art what is referred to by "directing the current along an uninterrupted path." Hence, claim 23 is not indefinite and Applicant requests that the Examiner withdraw the rejection.

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Claim 25 depends directly from claim 23 and is not indefinite for at least the reasons identified above with respect to claim 23. Applicant, therefore requests that the Examiner withdraw the rejection.

Claim 26 has been cancelled.

In rejecting claim 24, the Examiner stated that "it is not known what is 'an electronic component.'" Applicant asserts that one of skill in the art would understand the meaning of the term "an electronic component" when read "in light of: (A) the content of the particular application disclosure; (B) the teaching of the prior art; and (C) the claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made." See MPEP §2173.02 In particular, the specification discusses, in one embodiment, "electronic components 102 and 104, such as capacitors, integrated circuits, diodes, inductors, or the like." Finally, claim 24 is directed to "the method of claim 23, *wherein receiving the current at the via comprises* receiving the current from an electronic component disposed on the substrate." Therefore, claim 24 further modifies claim 23 by specifying from where the current is received. Applicant asserts, therefore, that claim 24 is not indefinite for the reasons stated above and requests that the Examiner withdraw the rejection.

Rejections Under 35 U.S.C. § 103

Claims 23, 25, and 26 as best understood are rejected under 35 USC § 103(a) as being unpatentable over Barr et al. (U.S. Patent No. 6,711,814). Applicant respectfully traverses this rejection.

Claim 23, as amended, is directed to a method for transmitting high-frequency current through a substrate. The method comprises receiving the high-frequency current at a via passing through at least one conductive plane disposed within the substrate and coupled to the via with one or more tabs which span a gap between the at least one conductive plane and the via; and directing the high-frequency current along an uninterrupted path substantially on a surface of the via thereby bypassing the at least one conductive plane by conducting at least a portion of the high-frequency current between the one or more tabs.

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Barr does not teach or suggest, among other things, the claimed “bypassing the at least one conductive plane by conducting at least a portion of the high-frequency current between the one or more tabs.” The specification discusses, in one embodiment, “a gap 230 *between a surface 240 of via 110 and a surface 216 of conductive plane 122* . . . Gap 230 provides an uninterrupted path for a portion of a high-frequency current flowing substantially on surface 240 of via 110 to flow *between each of tabs 220₁ to 220_m*, through gap 230, and *past conductive plane 122.*” ¶ 18.

Nothing in Barr teaches or suggests the claimed “*bypassing the at least one conductive plane* by conducting at least a portion of the high-frequency current *between the one or more tabs.*” Therefore, claim 1 is not obvious over Barr and Applicant requests that the Examiner withdraw the rejection.

Claim 25 depends directly from claim 23 and, thus, is allowable for at least the reasons stated above with respect to claim 23. Applicant, therefore, requests that the Examiner withdraw the rejection.

Claim 26 has been cancelled.

Claim 24 as best understood was rejected under 35 USC § 103(a) as being unpatentable over Barr et al. (U.S Patent No. 6,711,814) in view of Howard et al. (U.S. Patent No. 5,347,258).

Claim 24 depends directly from claim 23. Applicant asserts that nothing in Barr nor Howard, either taken together or alone, teaches or suggests the claimed “*bypassing the at least one conductive plane* by conducting at least a portion of the high-frequency current *between the one or more tabs,*” as discussed above with respect to claim 23. Claim 24 is, therefore, not obvious over Barr in view of Howard and Applicant requests that the Examiner withdraw the rejection.

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Title: ELECTRICAL CONNECTIONS WITHIN SUBSTRATES**CONCLUSION**

Claims 37-42 are new claims included in the claim set. In adding claims 37-42, no new material has been added to the application and support for the new claims 37-42 is found in the specification. In addition, claims 37-42 fall within the same group of claims specified in the Restriction Requirement.

Applicant respectfully submits that claims 23-25, and 37-42 are in condition for allowance and notification to that effect is earnestly requested. If necessary, please charge any additional fees or credit overpayments to Deposit Account No. 502432.

If the Examiner has any questions or concerns regarding this application, please contact the undersigned at 612-332-4720.

Respectfully submitted,

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